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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/517,603	08/04/2005	Toyozo Fujioka	262807US0PCT	8526
22850	7590	03/08/2006		
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			EXAMINER TESKIN, FRED M	
			ART UNIT 1713	PAPER NUMBER

DATE MAILED: 03/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/517,603

Applicant(s)

FUJIOKA, TOYOZO

Examiner

Fred M. Teskin

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☒ Claim(s) 4, 5 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>072105</u> . | 6) <input type="checkbox"/> Other: ____. |

Claims 1-5 are currently pending and under examination herein.

Claims 1-5 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The term "high" in claims 1 and 2 is a relative term which renders the claim indefinite. The term "high" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. In particular, it is unclear whether the term "high" is intended to connote a melting point range corresponding to that mentioned for adhesion-providing resin of the prior art (specification, page 2). If not, the scope of the term is unknown, as the specification nowhere delimits "high" melting point, vis-à-vis the copolymer of the present invention.

Claims 4 and 5 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. The recitation of softening point values outside the range recited in claim 1 for the same property renders claims 4 and 5 improper dependent claims – that is, they can conceivably be infringed by subject matter that would not infringe the base claim; e.g., hydrogenated copolymer

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having a softening point of 136°C or 160°C would literally infringe claims 4 and 5, but not claim 1. See MPEP 608.01 (n)(III).

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1 and 3-5 are rejected under 35 U.S.C. 103(a) as unpatentable over US 6040388 to Nishimura et al.

Nishimura et al disclose a copolymer comprising a vinyl-substituted aromatic compound and a cyclopentadiene and/or dicyclopentadiene, having a softening point between 60 and 130°C, preferably between 70 and 120°C, as well as a hydrogenated form of that copolymer, having a softening point between 70 and 140°C, preferably between 80 and 130°C (col. 4, ll. 24-40).

Nishimura et al differ from the claimed invention only in that a copolymer having a “high” melting point and a softening point within the claimed ranges is not disclosed in a specific embodiment. However, the extent of overlap between the claimed ranges [100 to 135°C (claim 1), 125 to 160°C (claim 4) and 135 to 160°C (claim 5)] and even the narrower, preferred ranges of Nishimura et al is not insubstantial. In cases involving overlapping ranges, such as the present case, it has consistently been held that even a slight overlap in range establishes a *prima facie* case of obviousness; see, e.g., *In re Woodruff*, 16 USPQ2d 1936 (claimed invention rendered obvious by prior art reference whose disclosed range (“about 1-5% carbon monoxide”) abutted the claimed range (“more than 5% to about 25%” carbon monoxide) and *In re Geisler*, 43 USPQ2d at 1365 (acknowledging that claimed invention rendered *prima facie* obvious by prior art reference whose disclosed range (50-100 Angstroms) overlapped the claimed range (100-600 Angstroms)).

Concerning melting point, the term “high” in claims 1 and 2 is considered indefinite as explained above. Nevertheless, for purposes of applying the prior art, the term is read to imply a melting point commensurate with that of the adhesion-providing resin mentioned in the background portion of the specification. However, since the copolymer and hydrogenated copolymer of Nishimura et al are indicated to possess the same tackifier/adhesive utility (see, e.g., col. 11, ll. 5-8), there is a plausible basis for inferring a melting point value within the ambit of the rejected claims.

Claims 1-3 are rejected under 35 U.S.C. 102(b) as being anticipated by US 5739239 to Daughenbaugh et al.

Daughenbaugh et al disclose thermally polymerized copolymer of dicyclopentadiene (DCPD) and vinyl aromatic compounds and hydrogenated products thereof (col. 1, ll. 10-13). Copolymer prepared by thermal polymerization of styrene and DCPD at a monomer concentration of 60 parts and 50 parts is reported in Table 2, Samples 1-8. In reference to this table, it is stated that "the monomer concentration is given in parts, with the remainder being solvent (total=100)" (col. 6, ll. 65-68); therefore, it follows that the sample runs employing 60 parts monomer used 40 parts of solvent, or an amount 0.4 times based on the whole monomer mass, as per claims 1 and 2. Of those runs, Samples 2 and 8 also report softening points (100 and 108°C) within the ranges of said claims, and thus fully meet the positive limitations of claims 1 and 2.

In addition, Samples 1-6 of Table 6 describe copolymer resin prepared by thermal polymerization of DCPD and α -methylstyrene; each resin has a softening point within the claimed ranges and, per column 11, lines 61-62, all the polymerizations were run at 60 % monomer in solvent (initial concentration), meaning 40 % solvent was used as in the case of the Table 2 samples discussed above. Relative to claim 3, hydrogenation of the samples is described in column 12, lines 15+.

In view of the identity of polymerization conditions and softening point as detailed above, the cited copolymers of Daughenbaugh et al are reasonably presumed to inherently possess the same melting point as the applicant's claimed copolymer. When there is sound basis for believing that the products of the applicant and the prior art are

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the same, the applicant has the burden of showing that they are not. *In re Spada*, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990).

Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as being anticipated by GB 1377989.

GB '989 discloses hydrocarbon resins thermally polymerized from cyclopentadienes and unsaturated aromatic hydrocarbons such as styrene (page 1, ll. 56+). Thermal polymerization of cyclopentadiene or DCPD and specific unsaturated aromatic hydrocarbons in the presence of solvent in an amount within claims 1 and 2 - e.g., 30, 20 or 10 wt. % - to give hydrocarbon resin having a softening point within the claimed ranges is exemplified: see Table 1, Nos. 4 and 5; Table 2, Nos. 7 and 8, Table 5, Nos. 18 and 19 and Table 6, Nos. 21 and 22.

A melting point as claimed is reasonably presumed to inhere in the cited products of GB '989 based on the identity of polymerization conditions and softening point.

No claims are allowable at this time.

Any inquiry concerning this communication should be directed to Examiner F. M. Teskin whose telephone number is (571) 272-1116. The examiner can normally be reached on Monday through Thursday from 7:00 AM - 4:30 PM, and can also be reached on alternate Fridays.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu, can be reached on (571) 272-1114. The appropriate fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

FMTeskin/03-06-06



FRED TESKIN
PRIMARY EXAMINER
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